

CLAIMS

What is claimed is:

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1. An apparatus for anchoring a tubular element within a passageway formed in a mammalian body, the apparatus comprising:

5 a) a tubular element having a flexible, elongated, hollow tubular outer lumen with a central longitudinal axis extending therethrough, the outer lumen having a proximal end and a distal end;

b) deployment means positioned within the outer lumen and slidable with respect to the outer lumen, the deployment means having a proximal end and a distal end; and,

10 c) a plurality of resilient anchoring members coupled to the distal end of the deployment means and extending longitudinally beyond the distal end of the deployment means, each anchoring member being reversibly movable by the deployment means between a first position and a second position, wherein in the first position, at least a portion of each anchoring member is retracted within the outer lumen of the tubular element, and wherein in the second position, at least a portion of each
15 anchoring member is deployed exteriorly to the outer lumen of the tubular element, so as to engage an inner wall of the mammalian passageway and anchor the tubular element in a selected position within the passageway.

20 2. The apparatus of claim 1 wherein the tubular element is a catheter.

not shown in drawing for selected species
 3. The apparatus of claim 1 wherein the outer lumen has openings near the distal end of the outer lumen through which at least a portion of each anchoring member is deployed so as to engage the inner wall of the mammalian passageway and anchor the tubular element in the selected position.

no description in spec for selected species
 4. The apparatus of claim 1 wherein the deployment means comprises a flexible, elongated, hollow tubular inner lumen.

where is the hollow tubular inner lumen for selected species
 5. The apparatus of claim 4 wherein the deployment means further comprises a guide wire.

6. The apparatus of claim 4 wherein a movable guide wire having a proximal end and a distal end is positioned within the inner lumen, and further wherein the distal end of the guide wire is coupled to a cap member, the cap member further being coupled to the anchoring members.

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 7. The apparatus of claim 1 wherein the deployment means comprises an elongated guide wire having a proximal end and a distal end, and further having a collar member coupled to the distal end of the guide wire.

8. The apparatus of claim 1 wherein the anchoring members are comprised of a pseudoelastic material.

9. The apparatus of claim 8 wherein the pseudoelastic material is a nickel titanium alloy.

10. The apparatus of claim 1 wherein the anchoring members are comprised of spring steel.

11. The apparatus of claim 1 having two anchoring members.

12. The apparatus of claim 1 having three anchoring members.

13. The apparatus of claim 1 wherein the anchoring members have a first end portion coupled to the distal end of the deployment means, and a second end portion coupled to a cap element.

14. An apparatus for anchoring a catheter within a passageway formed in a mammalian body, the apparatus comprising

- a) a catheter having a flexible, elongated, hollow tubular outer lumen with a central longitudinal axis extending therethrough, the outer lumen having a proximal end and a distal end;
- b) deployment means positioned within the outer lumen and slidable with respect to the outer lumen, the deployment means having a proximal end and a distal end; and,
- c) a plurality of resilient anchoring members comprised of a pseudoelastic material and coupled to the distal end of the deployment means and extending longitudinally beyond the distal end of the deployment means, each anchoring member being reversibly movable by the deployment means between a first position and a second position, wherein in the first position, at least a portion of each anchoring member is retracted within the outer lumen of the catheter, and wherein in the second position, at least a portion of each of the anchoring members is deployed exteriorly to the outer lumen

of the catheter, so as to engage an inner wall of the mammalian passageway and anchor the catheter in a selected position within the passageway.

15. The apparatus of claim 14 wherein the pseudoelastic material is a nickel titanium alloy.

16. An apparatus for anchoring a tubular element within a passageway formed in a mammalian body, the apparatus comprising:

a) a tubular element having a flexible, elongated, hollow tubular outer lumen with a central longitudinal axis extending therethrough, the outer lumen having a proximal end and a distal end;

b) a plurality of openings located near the distal end of the outer lumen;

c) deployment means positioned within the outer lumen and slidable with respect to the outer lumen, the deployment means having a proximal end and a distal end; and,

d) a plurality of resilient anchoring members coupled to the distal end of the deployment means and extending longitudinally beyond the distal end of the deployment means, each anchoring member being reversibly movable by the deployment means between a first position and a second position, wherein in the first position, at least a portion of each anchoring member is retracted within the outer lumen of the tubular element, and wherein in the second position, at least a portion of each of the anchoring members is deployed through the openings exteriorly to the outer lumen of the tubular element, so as to engage an inner wall of the mammalian passageway and anchor the tubular element in a selected position within the passageway.

17. The apparatus of claim 16 wherein the anchoring members are comprised of a pseudoelastic material.

18. The apparatus of claim 17 wherein the pseudoelastic material is a nickel titanium alloy.

19. The apparatus of claim 16 wherein the anchoring members are comprised of spring steel.

20. The apparatus of claim 16 wherein the anchoring members have a first end portion coupled to the distal end of the deployment means and a second end portion coupled to a retaining ring.

21. The apparatus of claim 20 further comprising a guide wire.

A method for anchoring a tubular element within a passageway formed in a mammalian body, the method comprising the steps of:

- a) providing the apparatus of claim 1;
- b) positioning the apparatus of claim 1 at a selected location within the passageway;
- c) deploying at least a portion of anchoring members of the apparatus of claim 1 against an inner wall within the passageway; and,
- d) disengaging the anchoring members from the inner wall and retracting the anchoring members back into the tubular element.

23. A method for anchoring a tubular element within a passageway formed in a mammalian body, the method comprising the steps of:

- a) providing the apparatus of claim 16;
- b) positioning the apparatus of claim 16 at a selected location within the passageway;
- 5 c) deploying at least a portion of anchoring members of the apparatus of claim 16 against an inner wall within the passageway; and,
- d) disengaging the anchoring members from the inner wall and retracting the anchoring members back into the tubular element.

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